

Application Serial Number: 10/709,015
Supplemental Amendment Dated: 02/09/2006
Office Action Dated: 08/23/2005

Docket Number: A-0004

AMENDMENTS TO THE CLAIMS

Please amend claims 1, 6, 7, 10, 13, 17 and 18 as follows.

Please cancel claims 2, 3, 8, 9 and 20.

Please add new claims 21 – 25.

Please replace the claims with the following listing of the claims.

Listing of the Claims:

The listing of claims will replace all prior versions and listings of claims in the Application:

Claim 1 (currently amended): A ~~blood-pressure~~ blood pressure-monitoring device, comprising:

a ~~thin-film, pressure-monitoring~~ first module comprising a pressure-sensitive region configured to generate a first time-dependent signal;

an optical module comprising an optical source ~~that generates both red and infrared radiation~~ and an optical ~~transmission~~ detector configured to generate a second time-dependent signal; and

a microprocessor configured to: i) receive the first time-dependent signal from the first and process information from the thin-film, pressure-monitoring module and the second time-dependent signal from the optical module; ii) determine a time difference between the first and second time-dependent signals; and iii) to determine blood pressure information from the time difference between the first and second time-dependent signals;

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a short-range wireless transmitter configured to transmit the blood pressure information to a remote computer; and
a housing configured to be worn on a user's body that comprises the microprocessor and the short-range wireless transmitter and connects to the optical module.

Claim 2 is cancelled.

Claim 3 is cancelled.

Claim 4 (previously presented): The blood-pressure monitoring device of claim 1, wherein the optical source comprises a laser or a light-emitting diode.

Claim 5 (previously presented): The blood-pressure monitoring device of claim 1, wherein the optical detector comprises a photodiode.

Claim 6 (currently amended): The blood-pressure monitoring device of claim 1, further comprising a ~~finger-mounted component~~ component adapted to be mounted on a user's finger that comprises the optical module.

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Claim 7 (currently amended): The blood-pressure monitoring device of claim 6, wherein the ~~finger-mounted component~~ component adapted to be mounted on the user's finger is an annular ring.

Claim 8 is cancelled.

Claim 9 is cancelled.

Claim 10 (currently amended): The blood-pressure monitoring device of claim [[9]] 1, wherein the short-range wireless transmitter is a radio-frequency transmitter operating a peer-to-peer, part-15, 802.15, or 802.11 wireless protocol.

Claim 11 (original): The blood-pressure monitoring device of claim 1, further comprising an external, secondary wireless component.

Claim 12 (original): The blood-pressure monitoring device of claim 11, wherein the external, secondary wireless component comprises a short-range wireless receiver.

Claim 13 (currently amended): The blood-pressure monitoring device of claim 12, wherein the short-range wireless receiver is a radio-frequency receiver operating a peer-to-peer, part-15, 802.15, or 802.11 wireless protocol.

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Claim 14 (original): The blood-pressure monitoring device of claim 11, wherein the external, secondary wireless component further comprises a long-range wireless transmitter.

Claim 15 (original): The blood-pressure monitoring device of claim 14, wherein the long-range wireless transmitter is configured to transmit information over a terrestrial, satellite, or 802.11-based wireless network.

Claim 16 (previously presented): The blood-pressure monitoring device of claim 15, wherein the long-range wireless transmitter is configured to transmit data over a wireless network operating on at least one of the following protocols: CDMA, GPRS, and analogs and derivatives thereof.

Claim 17 (currently amended): The blood-pressure monitoring device of claim 1, wherein the ~~pressure monitoring module is configured to generate~~ first time-dependent signal comprises a pressure waveform.

Claim 18 (currently amended): The blood-pressure monitoring device of claim 17, wherein the ~~optical module is configured to generate~~ second time-dependent signal comprises an optical waveform.

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Claim 19 (original): The blood-pressure monitoring device of claim 18, wherein the microprocessor comprises computer-readable code that processes both the optical and pressure waveforms to determine blood pressure.

Claim 20 is cancelled.

Claim 21 (new): A blood pressure-monitoring device, comprising:
a first module comprising a thin-film pressure sensor configured to generate a first time-dependent signal;
an optical module comprising an optical source and an optical detector configured to generate a second time-dependent signal;
a microprocessor configured to: i) receive the first time-dependent signal from the first module and the second time-dependent signal from the optical module; ii) determine a time difference between the first and second time-dependent signals; and iii) determine blood pressure information from the time difference between the first and second time-dependent signals; and
a short-range wireless transmitter that transmits the blood pressure information to a remote computer.

Claim 22 (new): A blood pressure-monitoring device, comprising:
a first module comprising an electrical impedance sensor configured to generate a first time-dependent signal;
an optical module comprising an optical source and an optical detector configured to

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generate a second time-dependent signal;

a microprocessor configured to: i) receive the first time-dependent signal from the first module and the second time-dependent signal from the optical module; ii) determine a time difference between the first and second time-dependent signals; and iii) determine blood pressure information from the time difference between the first and second time-dependent signals; and,

a short-range wireless transmitter that transmits the blood pressure information to a remote computer.

Claim 23 (new): A blood pressure-monitoring device, comprising:

a first module configured to generate a first time-dependent signal;

an optical module comprising an optical source and an optical detector configured to generate a second time-dependent signal;

a microprocessor configured to: i) receive the first time-dependent signal from the first module and the second time-dependent signal from the optical module; ii) determine a time difference between the first and second time-dependent signals; and iii) determine blood pressure information from the time difference between the first and second time-dependent signals;

a short-range wireless transmitter that transmits the blood pressure information to a remote computer; and,

a patch that attaches the first module and the optical module to a patient.

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Claim 24 (new): A blood pressure-monitoring device, comprising:

a first module configured to generate a first time-dependent signal;
an optical module comprising an optical source and an optical detector configured to generate a second time-dependent signal;
a microprocessor configured to: i) receive the first time-dependent signal from the first module and the second time-dependent signal from the optical module; ii) determine a time difference between the first and second time-dependent signals; and iii) determine blood pressure information from the time difference between the first and second time-dependent signals;
a location-determining component that determines location information of the monitoring device; and,
a short-range wireless transmitter that transmits the blood pressure and location information to a remote computer.

Claim 25 (new): A patient monitoring system comprising:

a first module configured to generate a first time-dependent signal;
a watch component which comprises:
an optical module comprising an optical source and an optical detector configured to generate a second time-dependent signal;
a microprocessor configured to: i) receive the first time-dependent signal from the first module and the second time-dependent signal from the optical module; ii) determine a time difference between the first and second time-dependent signals; and iii) determine blood pressure information from the time difference between the first and second time-

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dependent signals; and

a short-range wireless transmitter that transmits the blood pressure information to an external device;

a wireless network for receiving the blood pressure information from the external device; and,

an Internet-based system which comprises:

a gateway software piece which receives information from the wireless network;

a host computer system comprising a database for storing the information; and,

a website for displaying the information.